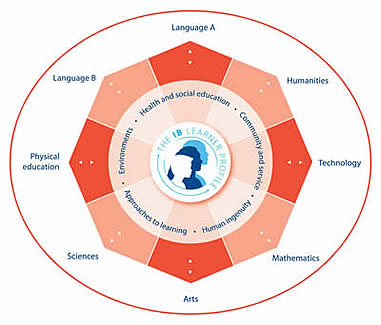
**MYP GRADE 10**

**PROJECT-3**

**Assessment Task – Technology and Global warming**

**AOI: ENVIRONMENT**

**ATL: Information literacy, Collaborative and reflection skills**

**[](http://occ.ibo.org/ibis/occ/img/cm/ENG_MYP_large.jpg)**

**Grading Criteria:**

**A: Investigate 6**

**B: Design 6**

**C: Plan 6**

**D: Create 6**

**E: Evaluate 6**

**F: Attitudes in technology 6**

**Unit Question:**

What future developments in technology would help in controlling global warming?

**Criterion A: INVESTIGATE Maximum: 6**

**Context or Scenario:**

**Climate change is happening**

**Our Earth is warming.** Earth's average temperature has risen by 1.4°F over the past century, and is projected to rise another 2 to 11.5°F over the next hundred years. Small changes in the average temperature of the planet can translate to large and potentially dangerous shifts in climate and weather.

**The evidence is clear.** Rising global temperatures have been accompanied by changes in weather and climate. Many places have seen changes in rainfall, resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves. The planet's oceans and glaciers have also experienced some big changes - oceans are warming and becoming more acidic, ice caps are melting, and sea levels are rising. As these and other changes become more pronounced in the coming decades, they will likely present challenges to our society and our environment.

**Humans are largely responsible for recent climate change**

Over the past century, human activities have released large amounts of carbon dioxide and other greenhouse gases into the atmosphere. The majority of greenhouse gases come from burning fossil fuels to produce energy, although deforestation, industrial processes, and some agricultural practices also emit gases into the atmosphere.

Greenhouse gases act like a blanket around Earth, trapping energy in the atmosphere and causing it to warm. This phenomenon is called the greenhouse effect and is natural and necessary to support life on Earth. However, the buildup of greenhouse gases can change Earth's climate and result in dangerous effects to human health and welfare and to ecosystems.

The choices we make today will affect the amount of greenhouse gases we put in the atmosphere in the near future and for years to come.

**Climate change affects everyone**

**Our lives are connected to the climate.** Human societies have adapted to the relatively stable climate we have enjoyed since the last ice age which ended several thousand years ago. A warming climate will bring changes that can affect our water supplies, agriculture, power and transportation systems, the natural environment, and even our own health and safety.

**Some changes to the climate are unavoidable.** Carbon dioxide can stay in the atmosphere for nearly a century, so Earth will continue to warm in the coming decades. The warmer it gets, the greater the risk for more severe changes to the climate and Earth's system. Although it's difficult to predict the exact impacts of climate change, what's clear is that the climate we are accustomed to be no longer a reliable guide for what to expect in the future.

**We can reduce the risks we will face from climate change.** By making choices that reduce greenhouse gas pollution, and preparing for the changes that are already underway, we can reduce risks from climate change. Our decisions today will shape the world our children and grandchildren will live in.

**We can make a difference**

**You can take action.** You can take steps at home, on the road, and in your office to reduce greenhouse gas emissions and the risks associated with climate change. Many of these steps can save you money; some, such as walking or biking to work can even improve your health! You can also get involved on a local or state level to support energy efficiency, clean energy programs, or other climate programs.



Calculate your carbon footprint and find ways to reduce your emissions through simple everyday actions.

Write a design brief based on this Scenario and **Explain Fully** what you are going to create.

You can now begin to **RESEARCH** for your project, some topics for research could be: **(there may be more)**

* [What causes global warming?](http://www.nrdc.org/globalwarming/f101.asp#1)
* [Is the earth really getting hotter?](http://www.nrdc.org/globalwarming/f101.asp#2)
* [Are warmer temperatures causing bad things to happen?](http://www.nrdc.org/globalwarming/f101.asp#3)
* [Is global warming making hurricanes worse?](http://www.nrdc.org/globalwarming/f101.asp#4)
* [Is there really cause for serious concern?](http://www.nrdc.org/globalwarming/f101.asp#5)
* [What country is the largest source of global warming pollution?](http://www.nrdc.org/globalwarming/f101.asp#7)
* [How can we cut global warming pollution?](http://www.nrdc.org/globalwarming/f101.asp#8)
* [Why aren't these technologies more commonplace now?](http://www.nrdc.org/globalwarming/f101.asp#9)
* [Do we need new laws requiring industry to cut emissions of global warming pollution?](http://www.nrdc.org/globalwarming/f101.asp#10)
* [Is it possible to cut power plant pollution and still have enough electricity?](http://www.nrdc.org/globalwarming/f101.asp#11)
* [How can we cut car pollution?](http://www.nrdc.org/globalwarming/f101.asp#12)
* [What can I do to help fight global warming?](http://www.nrdc.org/globalwarming/f101.asp#13)
* [How can I argue with a global warming skeptic?](http://www.nrdc.org/globalwarming/f101.asp#14)

**ACKNOWLEDGE** all research that is taken from sources such as the internet, books, people you interview.

**CRITICALLY**discuss your research. (Do you agree with other people’s views) make comments on each piece of research you include in the project.

Decide which **Area or Areas of Interaction** is relevant to this project (**see**[**AOIs**](https://sites.google.com/site/dominicstechnology/areas-of-interaction)) and **EXPLAIN FULLY** why they are linked to this project.

Write a **DESIGN SPECIFICATION** by creating a list of the following:

1. What is **ESSENTIAL** for my product/solution?

2. What is **DESIRABLE** for my product/solution?

Design a **TEST** to be used to discover if your product/solution fits the Specification. This can be a set of **QUESTIONS** used to find out if your product will meet all the essentials and what is desirable, also say how you will use with the results of your test.

**MYP Technology Check List** - The **Design Cycle**

**Criterion A Investigate**

***Identify the Problem:***  
  
o I have described the problem as I understood it   
  
o I have described why the problem is important and related it to society   
  
o I have described how and why solving this problem relates to the Areas of Interaction   
  
o I have described appropriate questions (at least 4) that will guide my investigation

***Some of the questions to consider are:***  
  
o How could I present my product?   
  
o Who will my client(s) be?   
  
o What does the client want?

***Develop the Design Brief:***  
  
o I have described the design brief and what I am going to do to solve the problem   
  
o I have researched the problem consistent with my guiding questions and design brief   
  
o It is clear from my research what I have learned from my investigation   
  
o I have organized my research in a proper format   
  
o I have included references to the sources of information in my answers (footnotes) and bibliography in the proper format   
  
o I have evaluated my sources of information

***Design Specification:***   
  
o I have concluded the investigation by formulating design specifications. I have included a table of essential and desirable characteristics. I have detailed a design specification that my product must meet.   
  
o I have designed and explained tests which I will use in order to test my finished product against my design specifications.